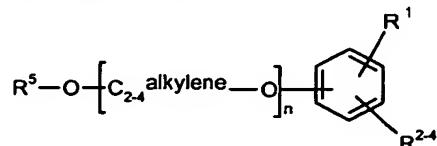


CLAIMS

1. A process for the preparation of an oligonucleotide which comprises the assembly of an oligonucleotide attached to a solid support, wherein the solid support is prepared by a process comprising polymerisation of a monomer which comprises a protected hydroxypolyC₂₋₄ alkyleneoxy chain attached to a polymerisable unit wherein the protected hydroxypolyC₂₋₄ alkyleneoxy chain contains from 2 to 10 C₂₋₄ alkyleneoxy groups and wherein the hydroxypolyC₂₋₄ alkyleneoxy chain is protected with an acid-labile protecting group, preferably an optionally substituted trityl group.

10

2. A process according to claim 1, wherein the solid support is prepared by a process comprising polymerisation of a monomer of formula (1)



wherein

15 R¹ is an optionally substituted ethylene group;

R²⁻⁴ are independently hydrogen, hydrocarbyl, halogen, or hydrocarbyloxy;

R⁵ is an optionally substituted trityl group; and

n is 2 to 10.

20 3. A process according to claim 2, wherein R¹ is para to the group of formula R⁵-O-[C₂₋₄alkylene-O]-, R¹ is an unsubstituted ethylene group, R²⁻⁴ are each H, the C₂₋₄ alkylene group is -CH₂CH₂- and n is 4.

25 4. A process according to any preceding claim, wherein the polymerisation occurs under conditions to produce cross-linking.

5. A process according to any preceding claim, wherein the oligonucleotide is assembled by the phosphoramidite approach.

30 6. A process according to any preceding claim, wherein the oligonucleotide is attached to the solid support via a cleavable linker.

7. A process according to claim 6, wherein the cleavable linker is a succinyl, oxaryl or trityl linker.

8. A process according to any preceding claim, further comprising cleaving the oligonucleotide from the solid support.

9. A process according to claim 8, wherein the oligonucleotide is deprotected prior to, concomitant with, or after, cleavage from the solid support.

10. A composition of matter having the formula:

Ps-Z-Q

10

wherein:

Ps represents a polymer obtained by a process comprising polymerisation of a monomer which comprises a protected hydroxypolyC₂₋₄ alkyleneoxy chain attached to a polymerisable unit wherein the protected hydroxypolyC₂₋₄ alkyleneoxy chain contains from 2 to 10 C₂₋₄ alkyleneoxy groups and wherein the hydroxypolyC₂₋₄ alkyleneoxy chain is protected with an acid-labile protecting group, preferably an optionally substituted trityl group;

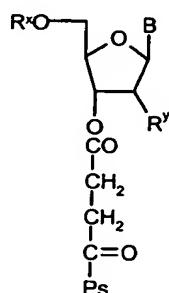
Z represents a single bond or a cleavable linker; and

Q represents H, a protecting group, a nucleoside or an oligonucleotide, provided that Q is not H when Z represents a single bond.

11. A composition of matter according to claim 10, wherein Z is a group of the formula -Y²-L-Y³, wherein Y² represents a single bond, -C(O)-, -C(O)NR¹⁷- or -C(O)O-, Y³ represents a single bond, -C(O)-, -C(O)NR¹⁷-, -NR¹⁷-C(O)-, -C(O)O-, -O-C(O)-, -NR¹⁷- or -O-, R¹⁷ is -H, a substituted or unsubstituted aliphatic group or a substituted or unsubstituted aromatic group and L is a bridging group.

12. A composition of matter according to claim 11, wherein L is a C₂₋₄ alkylene group.

30 13. A composition of matter according to claim 12 of the formula:



wherein R^x is an acid labile protecting group, R^y is H, F, allyl, OMe, OCH₂CH₂OMe, or hydroxy protected by a base labile or silyl-protecting group, and B is H, a protected adenine, guanine, or cytosine moiety or an optionally protected thymine, uracil or hypoxanthine moiety.